Textile Technology Digest

Published Monthly

by the

Institute of Textile Technology

Charlottesville, Virginia

Vol. 1, No. 3 August, 1944

ABSTRACTS

NOTE: Periodical articles and patents covered in "Textile Technology Digest" are abstracted elsewhere, but not all in the same publication. These abstracts are not intended to compete with any other source, but to supplement other sources for two specific purposes:

1. To bring together the pertinent references in a form adapted to rapid scanning, abstracts being selected and written to meet the interests (broadly interpreted) of member mills.

2. To present the information concisely, in sufficient detail to provide a survey of progress in any branch of the industry or to help readers decide whether they need to consult the original reference.

No attempt is made to include operating details or other information needed for following up a new development. Tailoring the abstracts to fit the needs of cotton textile technologists is the primary purpose. The layout and arrangement are intended for easy reading, rapid scanning and ready finding of pertinent items. Abstracts may be clipped for mounting on index cards (an extra copy for this purpose will be supplied on request), or whole issues may be filed in a standard 3-ring binder.

The rudimentary classification employed here will be expanded as the abstracts increase in number and variety.

There will be restricted circulation of "Textile Technology Digest" to selected schools, libraries and other recipients who are not members of the Institute of Textile Technology. Suggestions are invited from readers, whether members or not.

ANALYSIS

CELLULOSE DERIVATIVES. Carl J. Malm, Leo B. Genung, Robert F. Williams, Jr. and Mary A. Pile. Eastman Kodak Co. *Ind Eng. Chem. Anal. Ed. 16,* 501-4 (1944). An improved solution method for determining acyl content of cellulose esters by hydrolysis has been developed for cellulose acetates, propionates, butyrates and mixed esters. Alkali and water are added stepwise; the ester is held in solution until it is hydrolyzed.

BLEACHING

CHLORINE DIOXIDE. Eric R. Woodward, Gregory A. Petroe and Geo. P. Vincent, Mathieson Alkali Works. *Trans. Am. Inst. Chem. Eng. 40,* 271-90 (1944); *Chem. Ind. 55,* 58-61 (1944). A practical generator for inexpensive production of ClO_2 at the time of use enables this active bleaching agent to enter many industrial applications. The reaction is: $2NaClO_2+Cl_2=2NaCl + ClO_2$. Air is used to dilute the gas to the required low concentration.

BRAIDING

BRAIDING HOSE. Norman C. Jeckel (to U. S. Catheter & Instrument Corp.). USP 2 354 212, July 25, 1944. Hose or other tubular fabric is woven with uniform tightness and closeness of weave on a machine which tapers the tube by regularly varying the number of incoming threads, and stretches the tapered fabric to tube form.

CELLULOSE DERIVATIVES

CHEMICALS. Anon. *Chem. Met. Eng. 51,* No. 7, 97-9 (1944). A market analysis is presented to show the probable effects of modern progress in making rayon and cellulosic plastics on the demand for acids, alkalies, solvents and other chemicals.

ALKALI SOLUBLE CELLULOSE. Anon. *Rayon Textile Monthly 25,* 397 (1944). A new alkali soluble cellulose, developed by General Dyestuff Corporation, is named "Celfon" and may be used on cotton yarn as a permanent finish or size and as a means of increasing tensile strength and abrasion resistance. It is also useful on rayon, wool and blended fabrics.

CELLULAR PRODUCT. Clifford I. Haney and Mervin E. Martin (to Celanese Corp. of America). USP 2 354 260. July 25, 1944. A thermoplastic cellulose derivative is rendered spongy by the explosion method. It is mixed with 1-40 wt.–% of a liquid solvent or swelling agent, heated under high pressure above the boiling point of the liquid and suddenly released from pressure.

HEAT-STABLE COATINGS. Siegfried Peterson and Karl Tauble. USP 2 355 326. Aug. 8, 1944 (vested in the Alien Property Custodian). Heat-stable insoluble coatings and shaped articles are made from ethylcellulose, benzylcellulose, cellulose acetate or the like, which is first reacted with an acetal, an orthoacid ester or a polyester of a polybasic organic acid and then heated to expel the alcohol or phenol component of the polyester.

CELLULOSE ESTER COMPOSITION. Wm. H. Holst (to Atlas Powder Co.). USP 2 355 533, Aug. 8, 1944. Compounding cellulose acetate, propionate or butyrate with a hexitol tributylidene.

CELLULOSE XANTHATE. John R. Hollihan, Jr. (to American Viscose Corp.). USP 2 355 650, Aug. 15, 1944. Making viscose by reacting wet alkali cellulose with CS_2 in presence of 0.2–2% NH_3 (calculated on the alkali cellulose).

CELLULOSE ESTERS. Henry Dreyfus (to Celanese Corp. of America). USP 2 355 712, Aug. 15, 1944. Esterifying cellulose with at least 5 times its weight of a lower aliphatic acid anhydride in a liquid which dissolves the ester, in presence of H_2SO_4 as catalyst, then precipitating the ester and ripening it in another solvent.

ORNAMENTAL EFFECTS. Arthur Lyem (to Celanese Corp. of America). USP 2 355 738, Aug. 15, 1944. Applying a water-soluble resist to a cellulose derivative sheet and softening the uncoated portion with a solution of a nonvolatile plasticizer in a volatile solvent.

CELLULOSE ESTERS. Henry Dreyfus (to Celanese Corp. of America). USP 2 356 228, Aug. 22, 1944. Esterifying cellulose with acetic, propionic or butyric anhydride in a liquid blend of a solvent for the resulting primary ester and a di- or polychloro derivative of a lower aliphatic hydrocarbon, at least 1 C atom remaining unchlorinated.

COATED FABRICS

INSULATION. Raymond P. Lutz (to Western Electric Co.). USP Re 22 532/2 172 445, Aug. 22, 1944. Electric insulation is made by impregnating a fibrous web with cellulose acetate and a resin (left after extracting the rosin from a pine wood extract), and coating the sheet with cellulose acetate.

INSULATING TAPE. Jos. M. Coffey, Jos. J. Pickney and Robt. L. Griffeth (to Mica Insulator Co.). USP 2 355 632, Aug. 15, 1944. Black insulating tape is made by coating sized bias fabric, first with drying oil (containing driers), asphalt and chlorinated rubber, than with a like composition excepting that it contains no chlorinated rubber.

COATING WEBS. Edw. Person (to General Felt Products Inc.). USP 2 355 673, Aug. 15, 1944. Passing a roll through a bath of coating composition, transmitting the entrained coating to a second roll and then to a fibrous web, and passing the coated web over a smoothing bar.

ADHESIVE TAPE. Ernest A. Rodman (to E. I . du Pont de Nemours & Co.). USP 2 356 354, Aug. 22, 1944. Waterproof adhesive tape is made by coating thin fabric first with about 1.5 oz./sq. yd. of a plasticized and homogenized cellulose acetate composition, then with a pressure-sensitive rubber cement.

COLLOIDS

COLLOID CHEMISTRY, Theoretical and applied. Vol. 5, Part I, Theory and Methods. Vol. 5, Part II, Biology and Medicine. Jerome Alexander, Editor. Reinhold Publishing Corp., New York City. 1260 pp. $20.00. Reviewed in *Rayon Textile Monthly 25,* 412 (1944).

DYEING

SCREEN PRINTING. Technicus. *Rayon Textile Monthly 25,* 387-9 (1944). Practical hints are given for application of chrome mordant colors to rayon fabrics and for prevention of defects.

DYEING NEW FABRICS. C. M. Whittaker. *Chem. and Ind.* 1944, 269-71. The dyeing properties of recently developed artificial and synthetic fibers are discussed, with particular attention to Rayolanda, Fibro, nylon, casein wool, Vinyon and alginate rayon (a fiber from seaweed).

FLUORESCENT MARKING. Francis M. Sell (to Nat'l Marking Machine Co.). USP Re 22 530/2 347 644, Aug. 15, 1944. Invisible markings (visible by fluorescence) on textile fabrics such as laundry are applied by a pencil having a fluorescent dye dispersed through the pencil material. The pencil material is not laundryfast but the fluorescent dye is, so that the pencil mark remains and can be visualized by fluorescence.

PRINTING PASTE. Swanie S. Rossander, Chiles E. Sparks and Carl W. Maynard, Jr. (to E. I. du Pont de Nemours & Co.). USP 2 356 618, Aug. 22, 1944. A stabilized diazo printing paste contains a reaction product of a diazonium halide with a metal halide and a noncoupling arylcarboxylic acid (or a salt or anhydride of such an acid).

FABRICS

ACETATE GABARDINE. Anon. *American Wool and Cotton Reporter 58,* No. 33, 7-8, 33 (1944). A gabardine made entirely of heavy veneer acetate silk is described and illustrated, with analysis of its component yarns and the weaving method.

BLANKETS. Herbert F. Schiefer, Hazel T. Stevens, Pauline B. Mack and Paul M. Boyland. *J. Research Nat'l Bur. Standards 32,* 261-84 (1944). Performance characteristics of blankets were studied in relation to fiber composition, weight, thickness, compressibility, heat transmission, air permeability, strength and shrinkage. Quality standards are proposed.

INSULATING MATERIALS. T. F. Wall. Eng. *157,* 482 (1944). Cellulose thread and cotton are compared with amber, impregnated paper, wood, paraffin, rubber and silk as to mechanical and electrical properties, water absorption, thermal stability and other properties.

CARPET. John E. Gronenberg. USP 2 354 256, July 25, 1944. The standard U-shaped pile tufts in a carpet are interspersed with auxiliary pile tufts, some paralleling and some straddling the standard tufts.

TAPE. Wm. C. Protz (to Nat'l Tinsel Mfg. Co.). USP 2 354 703, Aug. 1, 1944. Weftless composite tape is made by cementing numerous thread strands to the edges of a paper strip.

INSULATION JACKETS. Clyde N. Stover (to Western Electric Co.). USP 2 355 018-9. Aug. 1, 1944. Insulated wire is covered with 2 layers of knit fabric, with their ribs (formed by knots along the base of the courses) oppositely arranged; this is accomplished by passing the wire through 2 knitting heads successively, in opposite directions.

INSULATING TAPE. Kenneth H. Barnard (to Pacific Mills). USP 2 355 038, Aug. 1, 1944. Tape for wrapping electrical conductors is woven as a tube, then cut in a spiral at specified angles with respect to warp and filled threads, treated to adjust these angles, and coated with insulating varnish.

COATED FABRIC. Benj. R. Hanson (to Sherwin-Williams Co.). USP 2 355 157, Aug. 8, 1944. Fabric for airplane wings is coated with a cellulosic solution, evaporated till tacky and then sealed against further evaporation until the time of application.

RUBBERIZING. Geza Ganz. USP 2 355 521, Aug. 8, 1944. A fleece of cotton fiber is impregnated with a bath of rubber latex, casein and soy flour, then vulcanized.

WEBBING. Wm. Dubilier. USP 2 355 635, Aug. 15, 1944. Open mesh screen or webbing of synthetic fiber such as nylon has thick monofil warp and weft strands with a permanent crimp, alternate crimps being at and between the strand intersections.

DECORATED FABRIC. Geo. R. Cunnington (to Nat'l Automotive Fibres, Inc.). USP 2 356 225, Aug. 22, 1944. Forming a smoothly rounded raised bead on fabrics by pressing the fabric (placed over a vulcanizable sheeting) into a soft, yieldable surface, pressure being applied along spaced lines, and vulcanizing the strip of sheeting.

SHOCK ABSORBING FABRICS. Walter Garner (1/2 to Lister & Co., Ltd.). USP 2 356 456, Aug. 22, 1944. A shock absorbing fabric is made of successive fabric layers, spaced at least 1/12" apart by "legs" of resilient flexible textile material which restores the spacing after release of applied pressure.

HOSIERY WELT. Lester D. Wagenhorst (to Nolde and Horst Co.). USP 2 356 484, Aug. 22, 1944. A turned welt for flat-knit hosiery has an inner welt fold with its side edges spaced in from the outer fold, and a lengthwise seam engaging only the outer fold side edges.

NONSLIP SURFACE. Jean Mercier. USP 2 356 527, Aug. 22, 1944 (vested in the Alien Property Custodian). Imparting a nonslip surface to carpets or linings by facing them with a vulcanized rubber composition which contains about 30% of chopped straw and is not slippery when wet with oil.

TEXTILES: A Consumer Panel Survey Report. Product Use and Development Div., Good Housekeeping, New York City. 54 pp. Reviewed in *Rayon Textile Monthly 25,* 376 (1944).

FIBERS

NEW POLYMERIC FIBERS. Anon. *Silk and Rayon 18,* 815, 817, 899) (1944). A review of recent developments which indicate that urea derivatives can be used as sources of synthetic fiber and film forming resins or plastics.

PEANUT FIBER. Anon. *Textile Bull. 66,* No. 10, 54 (1944). Fiber from peanut protein, developed at the Southern Regional Laboratory, USDA, New Orleans, is silky in appearance and at least equal in quality to fiber from soybean protein or casein. The development is still in the experimental stage. Peanut oil can be hydrogenated to a consistency suitable for use as a textile lubricant.

WOOL AND ACIDS. G. A. Gilbert and E. K. Rideal, Cambridge Univ. *Proc. Royal Soc. 182,* 335-46 (1944). Titration of wool with HCl and H_2SO_4 yielded data from which an approximate equation has been derived for the reaction of fibrous proteins with acids. The transition from soluble to fibrous proteins is traced.

WOOL AND BACTERIA. Doris J. Hirschmann, Marian Zametkin and Ruth E. Rogers, U. S. Bureau of Human Nutrition and Home Economics. *American Dyestuff Reporter 33,* 353-9 (1944). Wool fiber and wool extracts can be utilized by several saprophytic organisms in a suitable medium but degreased steam sterilized wool fiber in absence of other nutrient materials is more or less completely resistant to these organisms.

CORDAGE. F. I. Oakley. *Fibers, Fabrics and Cordage 11,* 250-2 (1944). The principle substitutes for jute and cordage are sisal and Indian hemp, both of which are available in some quantity but not without difficulties as to supply and quality.

HIGH POLYMERS. Symposium. *Trans. Faraday Soc. 40,* 217-79 (1944). A joint symposium of the Plastics Group of Chemical Industry and Faraday Society, London, Jan. 12, 1944, on Molecular Weight and Molecular Weight Distribution in High Polymers; general introduction (end group, osmometric, viscometric, ultracentrifuge and fractional sedimentation methods), H. W. Melville, 217-20; papers by H. Campbell and P. Johnson, molecular weight and shape of nitrocellulose, proteins and other macromolecules in solutions, 221-33; E. A. W. Hoff, osmotic pressure of cellulose acetate and polymethacrylate solutions as related to molecular weight, 233-6; E. F. G. Herington, size distribution curves in the study of molecular weight, 236-40; G. Gee and H. W. Melville, kinetics of polymerization, 240-51; Elizabeth M. Frith and R. F. Tuckett, melting of crystalline polymers, 251-60; Geoffrey Gee, molecular weights of rubber and the interpretation of high polymer molecular weight data, 261-6; H. H. Gunter Jellinek, degradation of long chain molecules, 266-73;; discussion, 273-9.

SYNTHETIC RESINS. J. Willcock and H. Kennedy. *Fibers, Fabrics and Cordage 11,* 248-9 (1944). Uses of synthetic resins are discussed both for making fibers and for treating textile materials. Among the newer raw materials which have been used to produce fibers, at least on a laboratory scale, are peanuts, corn meal and sea weed. Numerous special finishes and pleating processes depend on synthetic resins.

FELTING COTTON WITH FUR. Geo. M. Rickers, Stanley G. Hoffman, Samuel C. Carpenter, Jr. and Warren W. Harris (to Hat Corp. of America). USP 2 355 598, Aug. 8, 1944. Felt is made with outer layers of fur fibers enclosing an inner layer of cotton fiber which is chemically treated to facilitate interfelting with the fur fibers at the contact faces.

ANIMALIZING COTTON. Johannes Nelles, Otto Bayer, Wilhelm Tischbein and Fritz Baehren (to General Aniline & Film Corp.). USP 2 356 079, Aug. 15, 1944. Cotton fiber is sensitized to wool dyes by treatment with a synthetic polymer derived from trimethyldiethylenetriamine and tetramethyltrimethylenetetramine.

ARTIFICIAL WOOL. Georges Heberlein (to Heberlein Patent Corp.). USP 2 356 518, Aug. 22, 1944. Making a wool-like yarn from regener-

ated cellulose by treating a high twist yarn with a swelling agent, washing, detwisting beyond the zero point and drying.

CHEMISTRY OF CELLULOSE. Emil Heuser. John Wiley and Sons, New York City; 660 pp.; $7.50; reviewed in Chem. Ind. *56,* 260 (1944).

GARMENTS

STOCKING TOPS. Eugene St. Pierre and Donat H. Fregeolle (to Hemphill Co.). USP 2 354 557, July 25, 1944. Making stocking tops by knitting one yarn over the throats of the sinkers at each wale in alternate courses of the fabric, and a smaller yarn at alternate wales, then turning the fabric in and sewing the upper and lower edges together to form a ribbed double welt.

GASPROOF CLOTHING. Robert L. Sebastian and Herbert A. Scruton (to the United States through the Secretary of War). USP 2 354 797, Aug. 1, 1944. Garments which protect the wearer from combat gases (in liquid or vapor phase) are made by coating fabric with viscose and rubber latex, then facing the fabric on both sides with sheepskin.

INSTRUMENTS

NEW EQUIPMENT. Anon. *Rayon Textile Monthly 25,* 404-5 (1944). Illustrated description of a new fluorescent inspection light for piece goods; Tag dielectric moisture tester; Plas-Tex, a new plastic made from cotton duck and used in loom replacement parts; a special holder for the Taber abrasive tester; an auxiliary lens for Fludlite magnifiers in inspection lamps; a moisture-proof time delay relay; and the Karbate heat exchanger.

PHYSICOCHEMICAL METHODS. Vol. I. Measurement and Manipulation. Vol. II. Practical Measurements. Jos. Reilly and Wm. N. Rae. Ed. 4. D. Van Nostrand Co. New York City. 610, 585 pp. $17.50. Reviewed in Chem. Eng. News *22,* 1320, 1322 (1944).

KNITTING

KNITTING HOSIERY. Julian W. Hughes. *Cotton 108,* No. 8, 145-6 148 (1944). Complete knitting of hosiery on twin cylinder machines having two identical cylinders on a single stand is predicted as a post-war development. Recommendations for the design of such a machine are offered. A new Vinyon yarn can be dyed and boarded without the extra process of presetting

FLUID CIRCULATOR. Chas. S. Aschenbrenner (to Textile Machine Works). USP 2 354 188, July 25, 1944. A temperature control system for knitting machines uses a fluid to which motion is imparted by a hollow reciprocating member forming part of the closed circuit.

MACHINES

RAYON AND COTTON COMBERS. Anon. *Am. Wool and Cotton Reporter 68,* No. 32, 7-8 (1944). Combers have been improved more than any other cotton processing machines. Their operation is described with special reference to lap and feed rolls, cylinder and shaft top comb and piecing rolls, sliver pan, condensing trumpet and calender drafting rolls, coiler heads, stripping rolls and aspirator.

AUTOMATIC BOBBIN. Anon. *Rayon Textile Monthly 25,* 383-4 (1944). Illustrated description of the new Plasti-Weld automatic loom bobbin which eliminates numerous defects of old style bobbins.

REED DEFECTS. H. E. Wenrich. *Rayon Textile Monthly 25,* 385-6 (1944). Methods of cleaning rusty reeds and repairing broken reed wires are described.

LOOMS. Alan E. Brickman (to Am. Steel & Wire Co.). USP 2 354 180, July 25, 1944. A harness connector for looms has an eye at one end, fitted around the harness actuator and held from clattering by a yielding wedge placed back of the actuator.

SLIVER FEED. Fred K. Henrickson (to Whitin Machine Works). USP 2 355 071, Aug. 8, 1944. Slivers are fed in circular paths by supporting the sliver cans on a table moving in a circular path which is eccentric to all the cans.

COTTON PICKER. Hynek A. Machs. USP 2 355 880, Aug. 15, 1944. A cotton harvester has opposed but coordinated picker units arranged to move along the rows of cotton in the field.

COMBER. Frank L. Crockett (to Whitin Machine Works). USP 2 356 034, Aug. 15, 1944. A lower comber calender roll has its top protruding through a recess in the sliver table to act together with a top calender roll.

PLASTICS

POLYFIBRE FOR MOLDING. W. C. Googin and R. R. Bradshaw, Dow Chemical Co. *Modern Plastics 21,* No. 11, 101-7, 164, 166 (1944). Polyfibre is a fine polystyrene fiber product (fiber diameter about 2 microns; cotton 15, wild silk 18, wool 29 microns). It may be used in loose bats (apparent density about 0.05) for buoyancy and sound or thermal insulation, and in compressed bats for molding.

LAMINATES. Carrol C. Sachs, Lockheed Aircraft Corp. *Modern Plastics 21,* No. 11, 80-2, 172, 174 (1944). Lamination processes under high pressure were followed by low pressure lamination, and processes operating without any applied pressure have now been developed. Fabric or paper is used as base; polyester resins are used as thermosetting monomers which require no solvent but must be handled without exposing workmen to dermatitis.

PROCESSING

FIBERS. Anon. *Rayon Textile Monthly 25,* 369 (1944). Recent developments in chemical treatment of natural fibers as announced by Monsanto Chemical Company, include treatment of wool to prevent shrinkage, treatment of either cotton or wool to double wearing quality, treatment of serges to eliminate shine, nonslip fibers, and wool which creases under steam and heat but does not wrinkle.

SINGEING. Anon. *Rayon Textile Monthly 25,* 395 (1944). Fabrics which are singed before dyeing must be treated with care since a certain amount of hairyness is beneficial in the dye-bath especially with sulfur dyes.

MASONITE PROCESS. Rodger M. Dorland, Masonite Corp. *Chem. Eng. News 22,* 1352-6 (1944). Application of the Masonite Process to hydrolysis of lignocellulose in the production of building board and other products is discussed especially in relation to military requirements. By-products include wood sugars and a variety of organic compounds.

RUBBER-FABRIC ARTICLES. Raymond C. Briant (to Firestone Tires & Rubber Co.). USP 2 354 426, July 25, 1944. Improving adhesion of fabric to rubber by impregnating the fabric with an aqueous rubber dispersion containing a water-soluble phenolaldehyde resin, drying the fabric and heating it, then vulcanizing it to rubber.

SIZING. Robert S. Bryce (to Eastman Kodak Co.). USP 2 354 662, Aug. 1, 1944. Sizing paper with gelatin and dimethylolurea in dilute aquous solution, then heating the paper hot enough to liberate formaldehyde from the dimethylolurea but not hot enough to decompose cellulose.

TREATING TEXTILES. Louis H. Bock and Alva L. Honk (to Röhm and Haas Co.). USP 2 355 265, Aug. 8, 1944. Treating textiles with a reaction product of formaldehyde and a mono- or disubstituted malonamide in which the N-substituents may be alkylamine or an amine with its carbon chain interrupted one or more times by the NH group.

RESEARCH

RESEARCH PRODUCTS. Jackson A. Woodruff, American Viscose Corp. *Textile Bulletin 66,* No. 11, 18, 40 (1944). The Textile Research Department of the American Viscose Corp. is responsible for translating research products into marketable goods. The equipment of the department includes machines for a wide variety of textile operations.

SPINNING

SPINNING MACHINE EXHAUST. Heinrich Thoma. USP. 2 354 893, Aug. 1, 1944. An exhaust for collecting broken ends in spinning machines has a suction conduit tapering from its closed end to the narrower suction end, with suction heads at intervals to draw in broken ends.

STRAND TENSION CONTROL. Sherman L. Gerhard (to U. S. Rubber Co.). USP 2 354 913. Aug. 1, 1944. Tension of a yarn strand is controlled by a drum rotating under constant torque, the strand being pulled from the drum in a direction tending to decrease its arc of contact while the torque tends to increase the arc.

ROLL RACK. Albert M. Guillet. USP 2 355 797, Aug. 15, 1944. A roll rack for roving frames has an inverted rectangulag cover fitting over one spindle next to the roll stand and over 2 adjacent spindles in the front row on the roving frame.

DRAWING FRAMES. Luigi Marzoli. USP 2 356 416, Aug. 22, 1944 (vested in the Alien Property Custodian). The sliver or lap drawing frame of a spinning machine has a pressure hinged lever system to move each top cylinder into pressure contact with its bottom cylinder.

TESTING

BAG STRENGTH. Richard W. Lahey. *Chem. Eng. News 22,* 1191-2 (1944). A test of bag strength developed by the Quartermaster Corps and known as the cycle test has a number of advantages. A modified test, which is better adapted to the conditions and hazards of civilian shipping, is recommended as a standard for testing bags.

TABLE NAPKINS. Lottie E. Sumner and Elizabeth D. Roseberry, Purdue Univ. *Rayon Textile Monthly 25,* 377-80 (1944). Tabulated data show the basic strength, weight strength and shrinkage of linen, rayon-cotton and permanent finish cotton able napkins before and after use and laundering. Permanent finish on cotton does not prevent or decrease shrinkage of the cotton napkins but los in breaking strength was less in these fabrics than in linens.

DETECTING SKEW. Wm. C. Oberkirk (to United Merchants & Mfrs. Inc.). USP 2 355 465, Aug. 8, 1944. Skew is detected in fabric moving on a finishing machine by placing a stroboscopic lamp near each edge of the advancing fabric strip, and a viewing device for observing the warp and weft threads against the light of these lamps.

TEXTILES: Testing and Reporting. Commercial Standard CS59-44, Nat'l Bureau of Standards. Supt of Documents, Washington, D. C. 10c.

TEXTILE CHEMICALS

SURFACE ACTIVE AGENTS. J. T. Eaton, E. F. Houghton and Co. *Rayon Textile Monthly 25,* 393-4 (1944). Surface active agents are described and their mode of action is discussed with respect to their hydrophobic or hydrophilic quality and according to their ionic nature.

MARKET FOR CHEMICALS. D. G. Woolf, Textile Research Inst. *Chem. Ind. 56,* 218-21 (1944). The postwar textile industry will be a market for chemicals used in making synthetic or artificial fibers, and for chemicals required in proofing, impregnating, coating, sizing, finishing and other fabric treatments.

STARCH. Herman H. Schopmeyer and Geo. E. Felton (to American Maize Products Co.). USP. 2 354 838, Aug. 1, 1944. Thin bodied starch with high adhesive strength, clarity and freedom from set-back of its gels is prepared by alkaline oxidation of waxy starch in an aqueous medium.

WASHING BATH. Anton Volz. USP 2 356 550, Aug. 22, 1944 (vested in the Alien Property Custodian). A washing bath for linen and other textiles has pH 6.1 to 8 and contains in aqueous solution a phosphate and an isohexyl, isooctyl or dodecyl phenyl polyglycol ether.

SOLUBLE STARCH. Walter A. Nivling. USP 2 355 463, Aug. 8, 1944. Starch is oxidized to a desired extent by coating the particles with a water-immiscible oxidation inhibitor, adding an aqueous oxidizing agent and removing the coating from the starch particles.

TREATING FIBERS. Jas. H. MacGregor (to Courtaulds Ltd.). USP 2 356 677, Aug. 22, 1944. Improving the dyeing properties of cellulosic fibers by forming thereon an insoluble condensation product of formaldehyde and a guanidine salt of adipic acid or of a higher dicarboxylic acid.

TEXTILE PRODUCTS

POLISHING WHEEL. Romie L. Melton and Albert L. Ball (to Carborundum Co.). USP 2 355 667, Aug. 15, 1944. A highly flexible, permanently charged abrasive wheel is made of felted layers of textile fiber interspersed throughout with abrasive grains and bonded with a nonsmearing binder.

WASTE DISPOSAL

WASTE WATER. Lewis B. Miller. *Cotton 108,* No. 8, 98-101 (1944). Waste waters from wool boiling, kiering, silk degumming and flax retting have a high biological oxygen demand. Sulphite or hydrosulphite liquor from cotton souring has a high chemical oxygen demand. Waste liquors from bleaching, dyeing or printing and other textile operations are also injurious to streams. Methods of recovering dyes and chemicals from waste liquor are discussed.

WEAVING

WEAVING NYLON. R. B. Pressley. *Cotton 108,* No. 8, 93-6 (1944). Weaving of nylon is almost identical with that of the best rayon types and requires no new equipment or unusual fittings. Suggestions are offered for proper operation of looms in weaving nylon.

LOOM SETTINGS. Shed Manager. *Silk and Rayon 18,* 886-90 (1944). Setting and timing of doublelift jacquard looms are described and illustrated, with particular attention to head motion and cylinder operation.

RACEPLATE COVERS. H. E. Wenrich. *Textile Bull. 66,* No. 8, 18, 20, 43; No. 9, 18, 38-9 (1944). Merits and demerits of billiard cloth, corduroy, pile fabrics, muslin, canvas and paper are discussed in relation to their use as receplate covers. Waterglass is a suitable adhesive for attaching covers for weaving worsted, cotton and some silk weaves; for many purposes organic adhesives are preferable. Proper alignment is important; corrections may be made, for example, by padding the shuttle box plate with sheets of stiff paper.

BOBBIN SUPPORT. Richard G. Turner (to Crompton & Knowles Loom Works). USP 2 354 285, July 25, 1944. A bobbin tip support for weft-replenishing looms is pivotally mounted and carries a roller to engage with the bobbin tip.

THREAD HOLDER. Richard G. Turner (to Crompton & Knowles Loom Works). USP 2 354 284, July 25, 1944. A pneumatic thread holder for weft-replenishing looms receives thread holder ends in a hollow passage in which an air jet directs weft ends as desired.

LOOM PICKER CHECK. Gustaf E. Utter. USP 2 354 340, July 25, 1944. An improved hydraulic check for loom pickers is arranged for vertical movement of its piston.

SELVAGE SHUTTLES. Walter Y. Robb (to Crompton & Knowles Loom Works). USP 2 354 615, July 25, 1944. The selvage shuttles of an Axminster loom have a detector for the selvage thread in the shuttle and a signal device which acts when weft is exhausted in the shuttle.

THREAD CONTROL. Richard G. Turner (to Crompton & Knowles Loom Works). USP 2 354 624, July 25, 1944. A thread control system is adapted to serve a group of weft-replenishing looms operating at different speeds, each loom having a pneumatic thread remover.

WEFT END HOLDER. Herbert A. Whitin (to Crompton & Knowles Loom Works). USP 2 355 022, Aug. 1, 1944. A thread holder for weft-replenishing looms supports a weight which can move horizontally and vertically due to vibrations of the thread holder, thereby actuating a feed device.

WARP STOP MOTION. Chas. E. Whitaker and Geo. G. Slough. USP 2 355 129, Aug. 8, 1944. The drop wires of a warp stop motion for terry looms have slotted extensions through which are passed rods which operate a rock shaft.

PICKER MOTION. LeRoy Layton and Edw. W. Shertz (to Lansdowne Steel & Iron Co.). USP 2 355 540, Aug. 8, 1944. A picker motion for looms has a hydraulic shuttle drive.

BOBBIN HOLDER. Theodore J. Levesque (1/3 each to Benj. Horwitz and Barney Prebluda). USP 2 355 596, Aug. 8, 1944. A loom having a rotary hopper has a shuttle-confining lay and a transfer device for transferring full bobbins to replace empty ones.

WARP STOP MOTION. Jos. Stuer. USP 2 355 609, Aug. 15, 1944. A knockoff device for a warp stop motion has a knockoff arm actuating a shipper device for stopping the loom; the knockoff plate is on an adjustable bunter which normally clears the free end of a sensitively controlled dagger, but not when a broken thread causes a solenoid-actuated armature to shift the position of the dagger.

LOOM CONTROL. Yervant H. Kurkjiam. USP 2 355 656, Aug. 15, 1944. An automatic let-off control device has a brake with a system of levers for tension control.

NIPPER LOOMS. Albert Moessinger (to Sulzer Freres, S. A.). USP 2 355 741, Aug. 15, 1944. A loom having a slay and needles in reciprocating motion to and from the center; one needle carries a weft thread to the center of the loom and the other carries it to the opposite edge, each needle having a gripper while each slay has a gripper opener.

LOOP FABRIC. Benj. S. Faber. USP 2 355 789, Aug. 15, 1944. Making loop fabric by interweaving ground warp threads with other ground threads and weft threads, and interweaving warp pile threads with these.

LOOM MECHANISM. Ray W. Hook (to Monarch Mills). USP 2 355 802, Aug. 15, 1944. A parallel mechanism for looms has an oscillating picker stick shoe with an opening in which a plug engages to guide the shoe motion.

AXMINSTER LOOM. Walter Y. Robb (to Crompton & Knowles Loom Works). USP 2 356 090, Aug. 15, 1944. An Axminster loom has an improved stop device for limiting the motion of guide plates toward the reed dents.

WEAVING TUBING. Rudolph Orgass (to Nalven & Son, Inc.). USP 2 356 342-3, Aug. 22, 1944. A fabric tube in which the beginning of each successive filler thread overlaps the end of the one preceding it for a distance at least equal to the diameter of the tube; and a coformer for looms to permit weaving of flat tubing.

WARPING MACHINE. Geo. Wiggermann. USP 2 356 365, Aug. 22, 1944 (vested in the Alien Property Custodian). A warping machine has a fluid-operated motor for driving a coaxially journaled shaft and counter-shaft between which the warp beam is centered.

CIRCULAR LOOM. Henri Pelce. USP 2 356 425, Aug. 22, 1944 (vested in the Alien Property Custodian). An improved change-over mechanism for circular looms having heddle frames for causing change-over of a small amplitude of warp threads and dividing the threads into a shed of 2 superposed sheets.

WEFT STOP MOTION. Elbridge R. Holmes (to Crompton & Knowles Loom Works). USP 2 356 458, Aug. 22, 1944. A weft stop device for a narrow ware loom has a reciprocating lay bearing a shuttle with a weft quill; it also has an electric detector which operates when no longer supported by the weft thread.

SHEDDING MECHANISM. Jas. M. Tuten (to Draper Corp.). USP 2 356 713, Aug. 22, 1944. A shedding device for looms has a manually operated lock on the adjustable support for the gear which acts as an adjustable fulcrum for the treadle.

YARNS

YARN NUMBERING. S. L. Gerhard, U. S. Rubber Co. *Rayon Textile Monthly 25,* 375-6 (1944). A yarn numbering system is suggested which is as flexible as the Grex system and is in units already used in the trade. The proposed system is given the name Poumar and is based on pounds per million yards.

EFFECTS OF TWISTS. Technical Editor. *Am. Wool and Cotton Reporter 68,* No. 26, 9-10, 12 (1944). Data on twist in cotton yarns are presented with particular reference to smoothness and elasticity when number of turns is increased. Conditions are stated under which additional twisting increases elasticity of the yarn but decreases its strength.

COTTON YARNS. Chas. F. Goldthwait (to Claud R. Wickard, Secretary of Agriculture). USP 2 352 707, July 4, 1944. The water-retaining wall of pressure hose is made of cotton yarn treated with a glycol cellulose ether which is water-insoluble but swells when wet.

NONKINKING YARN. Berkeley L. Hathorne and Robert W. Seem (to Crepe de Chine, Inc.). USP 2 353 666, July 18, 1944. Straight, compact twisted yarns are made so that they do not curl, kink or snarl in operations following twisting, knitting or weaving, so that their fabrics do not crepe, shrink, curl nor twist on a bias. This is accomplished by twisting the yarn 3-60% beyond the desired final number of turns per inch, setting the twist and then twisting in the opposite direction sufficiently to impart the desired final twist.

TREATING YARNS. Louis J. Sheps, Maurice A. Boisclair, Kendall V. Cooper and Peter Fristensky (to Richards Chemical Works). USP 2 354 335, July 25, 1944. Rayon yarn, lightly coated with a water-repellent, is twisted with silk yarn and wet-knit into goods which are scoured prior to finishing.

ELASTIC YARN. Sterling A. Alderfer (to Firestone Tire & Rubber Co.). USP 2 354 449, July 25, 1944. Feeding a stretched rubber thread and a core thread into a bobbin along with a yarn fed at a higher speed, while twisting the rubber and core threads together and the yarn loosely around them.

WINDER. Ernest K. Gladding (to E. I. du Pont de Nemours & Co.). USP 2 354 455. July 25, 1944. The receiver of a yarn winder is traversed back and forth by a reciprocating device on which a rotatable thread guide is mounted.

ELASTIC YARN. Aaron Rosenstein and Harry Dolan (to Rosenstein Bros.) USP 2 355 471, Aug. 8, 1944. Elastic yarn with an inelastic cover is made by extruding an elastic core from a solution, extruding an inelastic thread from another solution, and winding the thread, while still plastic and sticky, around the core.

WINDER. Howard W. Doughty, Jr. (to Foster Machine Co.). USP 2 355 634, Aug. 15, 1944. In a yarn winder a pivoted lever has a yarn-engaging device capable of rapid oscillation under changes in yarn tension to operate quick-acting snap switches at each end of an oscillation to control the tension.

STAPLE FIBER YARN. Ehrhart Franz. USP 2 356 574, Aug. 22, 1944. Yarn is made from cut bunches of rayon fibers of different lengths by mixing the bunches, combing and spinning. Lengths are predetermined according to a selected curve chart.

TEMPORARY QUARTERS OF THE INSTITUTE OF TEXTILE TECHNOLOGY
ON RUGBY ROAD, CHARLOTTESVILLE